

AN OPTICAL FIBRE EMULATOR

Abstract

An optical fibre emulator. The emulator receives a digitally-encoded optical signal;

- 5 demodulates the optical signal to produce serial electrical pulses representative of the digital signal; converts the serial pulses to parallel pulses; propagates the parallel pulses through a shift register whose propagation time is less than or equal to the time of a length of fibre to be emulated. The emulator then converts the parallel pulses at the output of the shift register to serial pulses; modulates an optical carrier with the serial pulses from the shift register; and attenuates
- 10 the modulated optical signal an amount corresponding to the length of the fibre being emulated to produce an output optical signal whose propagation time is substantially equal to that of a section of optical fibre to be emulated. The shift register may be tapped at any point to obtain an output delayed by a desired amount corresponding to a selected section of optical fibre.